Vestnik zoologii, **33**(4–5):69–71, 1999

UDC 594.3(520)

ON THE TAXONOMIC STATUS OF *PISIDIUM UEJII* (MOLLUSCA, BIVALVIA)

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Accepted 1 March 1999

On the Taxonomic Status of *Pisidium uejii* (Mollusca, Bivalvia) Korniushin A. V. — Type specimens of *Pisidium uejii* Mori, 1938 from Japan, deposited in the collection of Senckenbergsmuseum, Frankfurt-am-Main, are studied and the species is shown to belong to the subgenus *Odhneripisidium* Kuiper. It is the second species of this subgenus known from Japan.
Key words: *Pisidium* (*Odhneripisidium*), Japan.

Таксономический статус *Pisidium uejii* (Mollusca, Bivalvia). Корнюшин А. В. — Изучены типовые экземпляры *Pisidium uejii* Mori, 1938 из Японии, хранящиеся в Зенкенбергском музее (Франкфурт-на-Майнс). Показана принадлежность вида к подроду *Odhneripisidium* Kuiper. Это второй вид подрода, обнаруженный в Японии.
Ключевые слова: *Pisidium* (*Odhneripisidium*), Япония.

Introduction

Several endemic Japanese species were described or redescribed in the well known review by S. Mori (1938). Taxonomic status of some species was revised in the later publications. Starobogatov and Budnikova (1985) treated *P. ellipticum* Mori, 1938 as a species closely related to *P. casertanum* Poli, 1791, and *P. uenoji* Mori, 1938 as a relative of *P. crassum* Stelfox, 1918. Kuiper (1962 a) supposed synonymy of *P. parvum* Mori, 1938 to *P. annandalei* Prashad, 1925, but later (Kuiper, 1983) *P. parvum* was considered a distinct species of the subgenus *Odhneripisidium* Kuiper, 1962 b. *P. japonicum* Pilsbry et Hirase, 1908 was synonymized with *P. obtusale* (Lamarck, 1818) by Kuiper (1987). Korniushin (1996) studied anatomy of *P. uenoji* and demonstrated affinity of this species to *P. lilljeborgi* Clessin, 1886. However, one species, *P. uejii* Mori, 1938, was not studied since original description and its status in the framework of the recent taxonomic rearrangements in the group (Kuiper, 1962 b, et al.) remained unsettled.

When working in the malacological collection of Senckenbergsmuseum, Frankfurt-am-Main in 1995, I have found Mori's specimens of *Pisidium uejii*, labelled as "Paratypoide. Osimidu, Hyogo-Ken, S. Mori, 1/11/1937" (collection number SMF 25571/15). Locality mentioned on the label corresponds to the type locality defined in the original publication (Mori, 1938), thus the studied specimens are presumably paratypes. The study of shells and dried soft parts has revealed diagnostic characters undoubtedly indicating belonging of the species to the subgenus *Odhneripisidium* Kuiper, 1962, not to *Eupisidium* Odhner, 1921, as stated in original description. Provided below is re-description of the species and a brief discussion on its taxonomic affinities.

Here we use traditional system of the genus *Pisidium* suggested by Kuiper (1962 b) and accepted by many recent reviewers (Ellis, 1978; Burch, 1975, et al.). Anatomical terminology corresponds to that used by Korniushin (1996). All drawings were made by use of *camera lucida*.

Results

Pisidium (*Odhneripisidium*) *uejii* Mori (fig. 1)

Pisidium (Eupisidium) uejii Mori, 1938: p. 263, Pl. VIII, (fig. 7)

Shell of larger specimens rounded, in younger ones trapezoid, moderately convex, with rather protruded umbones. Upper margin straight, with clear "shoulders",

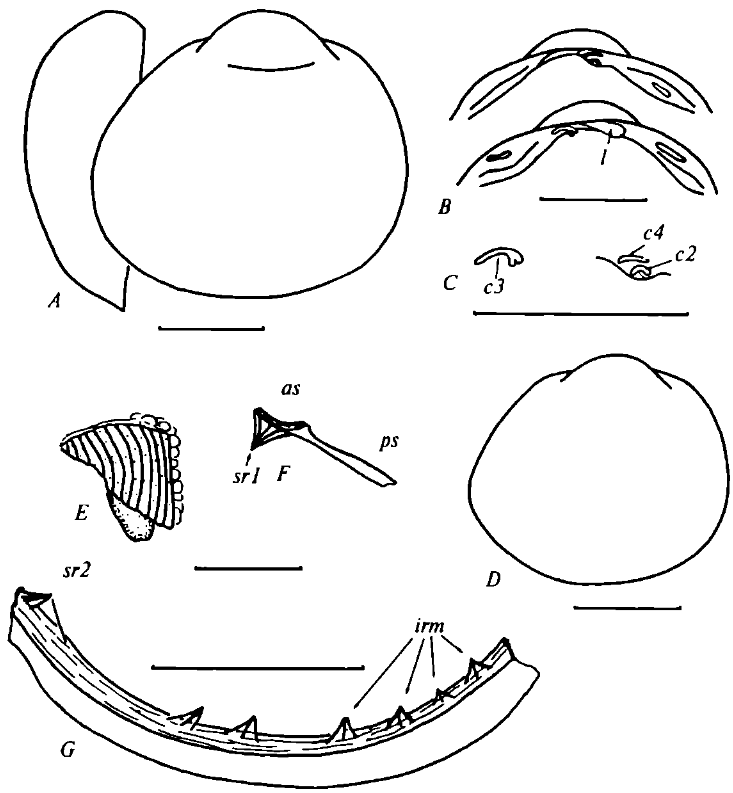


Fig. 1. *Pisidium (Odhneripisidium) uejii*, paratypes: shells (*A*), hinge (*B*), cardinal teeth (*C*), shell of the younger specimen (*D*), part of the soft body with ctenidium (*E*), posterior part of the mantle edge (*F*), musculature of the pedal slit (*G*); *l* — ligament, *c2* — inner cardinal tooth of the left valve, *c4* — outer cardinal tooth of the left valve, *c3* — cardinal tooth of the right valve, *as* — anal siphon, *ps* — pedal slit, *sr1* — anal siphon retractor, *sr2* — branchial opening retractor (branchial opening merged to the pedal slit), *irm* — inner radial muscles of the mantle. Scale bar 1 mm.

Рис. 1. *Pisidium (Odhneripisidium) uejii*, паратипы: раковина (*A*), замок (*B*), кардинальные зубы (*C*), раковина молодого экземпляра (*D*), часть мягкого тела с ктенидием (*E*), задняя часть мантийного края (*F*), мантийная мускулатура (*G*); *l* — лигамент, *c2* — внутренний кардинальный зуб левой створки, *c4* — наружный кардинальный зуб левой створки, *c3* — кардинальный зуб правой створки, *as* — анальный сифон, *ps* — педальное отверстие мантии, *sr1* — ретрактор анального сифона, *sr2* — ретрактор бранхиального отверстия (бранхиальное отверстие слито с педальным), *irm* — внутренние радиальные мускулы мантии. Масштабная линейка 1 мм.

other margins rounded. Surface almost smooth, without regular sculpture. Internal pores visible, but rare. Size of largest specimen: length 3.0, height 2.8, width (two valves) 2.1 mm.

Hinge plate narrow under umbone and broadened around cardinal teeth, especially in left valve. Cardinal teeth: c2 strongly arched, c3 arched, its posterior end somewhat swollen and cleft, c4 almost straight. Lateral teeth rather strong, swollen. Ligament inroverted; ligament pit elongated.

Anatomy (studied in specimens with dried soft parts). Only one siphonal opening and one demibranch visible. Mantle muscles arranged in six small, but well distinguishable bundles.

Discussion

In general, shell characters of the studied specimens correspond to the description of Mori (1938). Placement of the species in the subgenus *Odhneripisidium* is supported

by introverted type of the ligament, as well as by the absence of outer demibranch and inhalant (branchial) siphon. Introverted ligament is visible in the figure of Mori (1938), but not mentioned in his description. It is notable, that this type of ligament was defined in the literature much later (Kuiper, 1962 b) and therefore might not be known to the author of the species.

The original figure of the soft body (Mori, 1938, fig. 7d) is presumably not correct. As stated here, the outer demibranch shown on the figure was not found in the studied specimens. It means, that placement of the species in the genus *Eupisidium* (=*Euglesa* Leach, 1952, sensu Pirigov, Starobogatov, 1974, *Cyclocalyx* Dall, 1903, sensu Burch, 1975) (Mori, 1938) is erroneous. It is notable, that the introverted type of the ligament was never found in a combination with two-demibranch gills.

P. uejii differs from other Japanese *Odhneripisidium*, namely from *P. (O.) parvum* Mori, 1938, by its larger size and weak surface sculpture. Another species of this subgenus was described from Russian Far East (Primorye) under the name *Odhneripisidium khorense* Izzatullaev & Starobogatov, 1986. Similarly to *P. parvum*, the latter species is small and has regular surface sculpture (thin ribs) (Korniushin, 1996). *P. (O.) annandalei*, well represented in South East Asia (Kuiper, 1967), is also small (shell length up to 2.5 mm). The other Asian species of *Odhneripisidium* (*P. dammermani* Odhner, 1940, *P. sundanum* Rensch, 1934 and *P. sumatranum* Martens) are separated from *P. uejii* by a wide geographic gap (Kuiper, 1965). Thus, presence of another distinct *Odhneripisidium* species in Japan might be suggested, and *Pisidium uejii* Mori, 1938 should be treated as a valid name for it.

Despite several publications (Kuiper, 1965, 1967), the data on *Odhneripisidium* from South-East Asia are still fragmentary. Until revision of this fauna is completed, the final taxonomic decision on the species discussed here may not be available.

Acknowledgements

This investigation was supported by the DAAD fellowship (1995) and the grant of the International Program for Science and Education (ISSEP). The author is grateful to Dr. Ronald Janssen for the kind permission to work with the malacological collections of SMF.

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